Congratulations! You passed!
TO PASS 80% or higher

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GRADE
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Hypothesis Testing

LATEST SUBMISSION GRADE
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1. **Download spreadsheet Airlines Data, which contains a sample data about flight information for three separate airlines. Time delays are measured in minutes, with negative numbers representing flights that arrived early.** — 1 / 1 point

Course 3 Week 3 Quiz.xlsx

Fast Air claims that their flight delays are on average less than or equal to 20 minutes. We will perform an appropriate hypothesis test for this claim. We will assume an alpha of 0.05 for all tests.

First, report the average time delay in minutes for all Fast Air flights. Round your answer to two decimal places.

23.30

Correct
CORRECT

2. **What is the appropriate Null and alternate Hypothesis associated with this test?** — 1 / 1 point

- H0: μ = 20
  HA: μ != 20
- H0: μ ≤ 20
  HA: μ > 20
- H0: μ > 20
  HA: μ ≤ 20
- H0: μ ≥ 20
  HA: μ < 20

Correct
CORRECT

3. **Find the t-statistic for this hypothesis test. Round your answer to four decimal places.** — 1 / 1 point

0.9049

Correct
CORRECT

4. **Determine the cutoff value for the t-statistic. Round your answer to four decimal places.** — 1 / 1 point

1.6676

Correct
Review the video lessons again

5. **Now compare the t-statistic to the rejection region. What can we conclude about the null hypothesis?** — 1 / 1 point

- The t-statistic does not fall in the rejection region; therefore we reject the null hypothesis.
- The t-statistic falls in the rejection region; therefore we reject the null hypothesis.
- The t-statistic does not fall in the rejection region; therefore we fail to reject the null hypothesis.
- The t-statistic falls in the rejection region; therefore we fail to reject the null hypothesis.

Correct
CORRECT

6. **Not to be outdone by their competitors, the second airline in the data, EZ Jet, advertises that their average flight delay is less than 20 minutes. We will perform a hypothesis test on this claim.** — 1 / 1 point

Notice that EZ Jet uses a strict inequality in its claim. In this case, what is the appropriate null hypothesis?

- H0: μ < 20
- H0: μ ≤ 20
- H0: μ ≥ 20
- H0: μ > 20

Correct
CORRECT

7. **Calculate the mean, standard deviation, and t-statistic for this hypothesis test (the hypothesis test in Question 6). Your t-statistic should be -1.022.**

Now calculate and report the cutoff value for the t-statistic using an alpha value of 0.05. Round your answer to four decimal places.

1 / 1 point

-1.6706

✓ Correct

8. **Do we reject the null hypothesis? Therefore what can be said about EZ Jet's claim?**

1 / 1 point

- (●) No, we do not reject the null hypothesis; thus EZ Jet's claim that their wait time is less than 20 minutes can be rejected.
- ( ) No, we do not reject the null hypothesis; thus EZ Jet's claim that their wait time is less than 20 minutes can be accepted.
- ( ) Yes, we reject the null hypothesis; thus EZ Jet's claim that their wait time is less than 20 minutes can be rejected.
- ( ) Yes, we reject the null hypothesis; thus EZ Jet's claim that their wait time is less than 20 minutes can be accepted.

✓ Correct
CORRECT

9. **The third airline in the data, Comfy Flight, claims that at least 80% of their flights are either early, on-time, or delayed by 20 minutes or less. We will perform a hypothesis test on this claim.**

First, determine the number of flights that fit the description above and convert this to a sample proportion. Report the sample proportion, rounding the answer to four decimal places.

HINT: You can use the =COUNTIF function in Excel to count the number of flights for Comfy Flight that fit the description then divide that by the total number of flights for Comfy Flight.

1 / 1 point

0.4304

✓ Correct

10. **Write down the Null and Alternate Hypothesis associated with this test.**

1 / 1 point

- ( ) H0: p = 0.8
  HA: p != 0.8
- (●) H0: p ≥ 0.8
  HA: p < 0.8
- ( ) H0: p > 0.8
  HA: p < 0.8
- ( ) H0: p > 0.8
  HA: p ≤ 0.8

✓ Correct
CORRECT

11. **Now calculate and report the z-statistic associated with this Hypothesis test (the Hypothesis test in Question 10). Report your answer to four decimal places.**

1 / 1 point

-8.2131

✓ Correct
Review the video lessons again

12. **The cutoff value for the z-statistic is -1.6449. Is Comfy Flight's claim substantiated?**

1 / 1 point

- (●) No, we reject the null; 80% of their flights do not fall in this range (either early, on-time, or delayed by 20 minutes or less)
- ( ) Yes, we accept the null; 80% of their flights do fall in this range (either early, on-time, or delayed by 20 minutes or less)
- ( ) No, we accept the null; 80% of their flights do fall in this range (either early, on-time, or delayed by 20 minutes or less)
- ( ) Yes, we reject the null; 80% of their flights do not fall in this range (either early, on-time, or delayed by 20 minutes or less)

✓ Correct
CORRECT